
Molecular analyses of human induced pluripotent stem cells and embryonic stem cells.

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Public Summary:

Recent work from our group and others has argued that human induced pluripotent stem cells (hiPSCs) generated by the introduction of four viruses bearing reprogramming factors differ from human embryonic stem cells (hESCs) at the level of gene expression (Chin et al., 2009). Many of the differences seen were common across independent labs and, at least to some extent, are thought to be a result of residual expression of donor cell-specific genes (Chin et al., 2009; Ghosh et al., 2010; Marchetto et al., 2009). Two new reports reanalyze similar expression data sets as those used in Chin et al. (2009) and come to different conclusions (Newman and Cooper, 2010; Guenther et al., 2010). We compare various approaches to perform gene expression meta-analysis that all support our original conclusions and present new data to demonstrate that polycistronic delivery of the reprogramming factors and extended culture brings hiPSCs transcriptionally closer to hESCs.

Scientific Abstract:

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